2SA1502, 2SC3863

2018A

PNP/NPN Epitaxial Planar
Silicon Transistors

Ⓢ2108A

Switching Applications
(with Bias Resistances R1=2.2kΩ, R2=10kΩ)

Applications
- Switching circuits, inverter circuits, interface circuits, driver circuits

Features
- On-chip bias resistance: R1=2.2kohms, R2=10kohms
- Small-sized package: CP

( ): 2SA1502

Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	V_{CBO}	(-)50	V
Collector to Emitter Voltage	V_{CEO}	(-)50	V
Emitter to Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)100	mA
Peak Collector Current	i_{cp}	(-)200	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 to +150	°C

Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(-)40V, I_E=0			(-)0.1	uA
Collector Cutoff Current	I_{CEO}	V_{CE}=(-)40V, I_B=0			(-)0.5	uA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)5V, I_C=0	(-)315	(-)410	(-)590	uA
DC Current Gain	h_{FE}	V_{CE}=(-)5V, I_C=(-)10mA	50			
Gain-Bandwidth Product	f_T	V_{CE}=(-)10V, I_C=(-)5mA		250		MHz
				(200)		MHz
Output Capacitance	c_{ob}	V_{CB}=(-)10V, f=1MHz		3.5		pF
				(5.3)		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(-)10mA, I_B=(-)0.5mA		(-)0.1	(-)0.3	V

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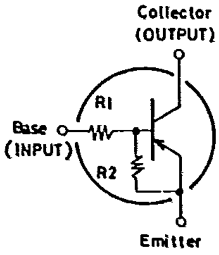
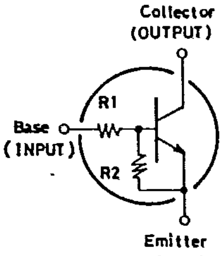
Marking: 2SA1502: HL, 2SC3863: QY

Electrical Connection

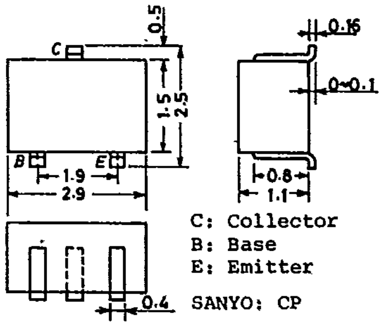


2SA1502(PNP)



2SC3863(NPN)

Case Oustline 2018A
(unit:mm)



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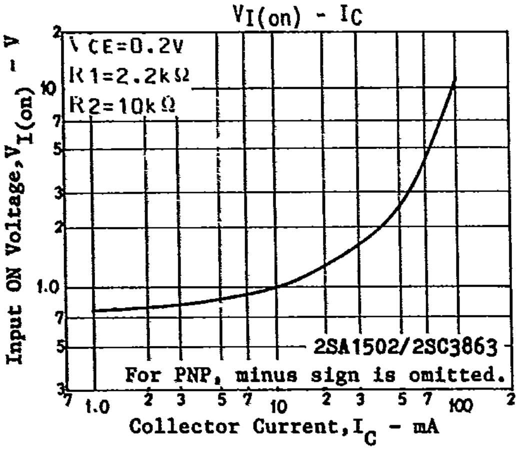
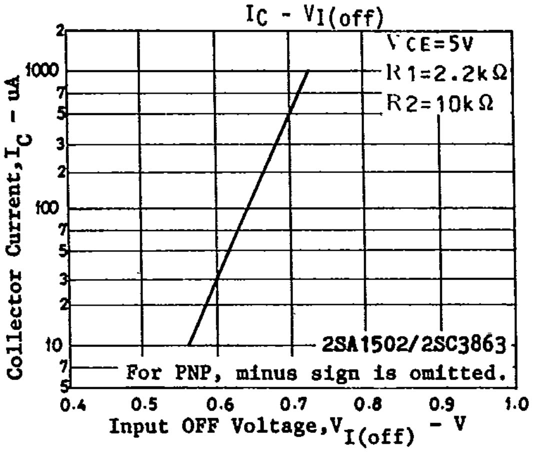
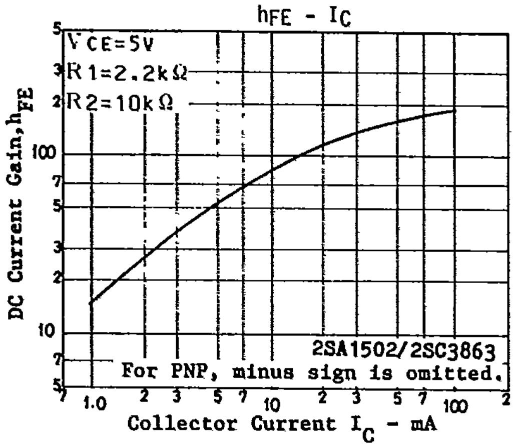
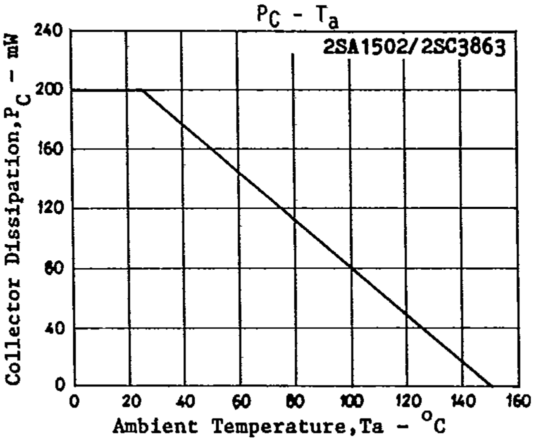
			min	typ	max	unit
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)10uA,I_E=0	(-)50			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)100uA,R_{BE}=∞	(-)50			V
Input OFF Voltage	$V_{I(off)}$	V_{CE}=(-)5V,I_C=100uA	(-)0.5	(-)0.7	(-)0.9	V
Input ON Voltage	$V_{I(on)}$	V_{CE}=(-)0.2V, I_C=(-)10mA	(-)0.7	(-)1.0	(-)1.8	V
Input Resistance	R1		1.5	2.2	2.9	kohm
Resistance Ratio	R1/R2		0.198	0.22	0.242	





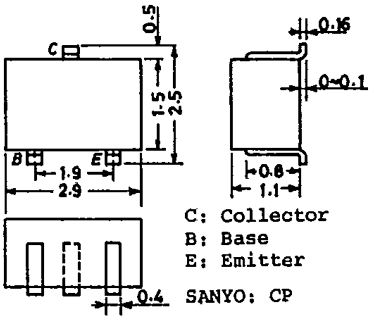




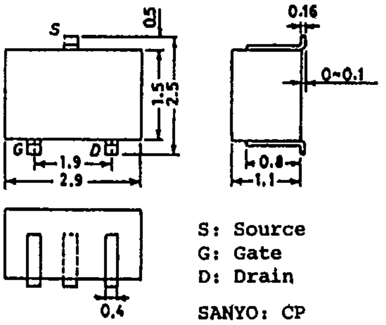
CASE OUTLINES OF SURFACE MOUNT TRANSISTORS

- All of Sanyo surface mount transistor case outlines are illustrated below.
- All dimensions are in mm, and dimensions which are not followed by min. or max. are represented by typical values.
- No marking is indicated.

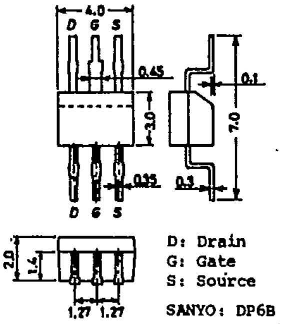
Case Outline—[2018A] unit: mm



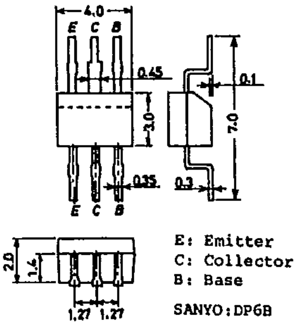
Case Outline—[2024A] unit: mm



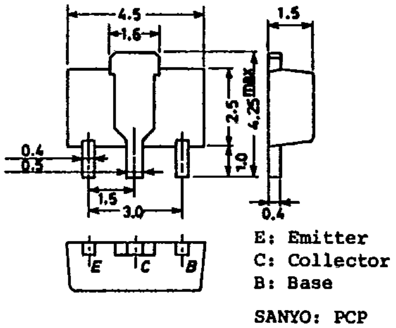
Case Outline—[2028A] unit: mm



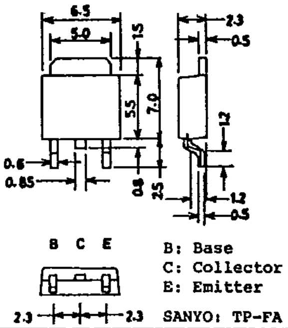
Case Outline—[2030A] unit: mm



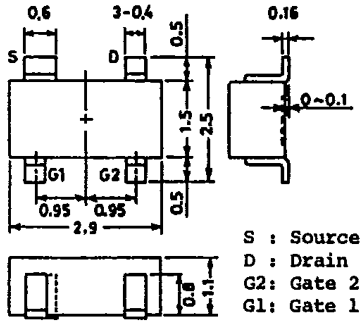
Case Outline—[2038] unit: mm



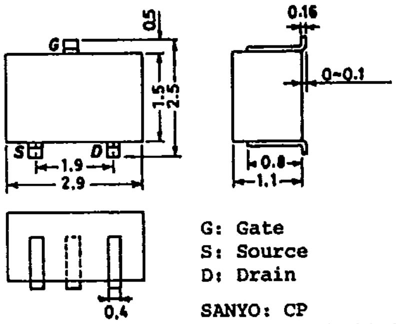
Case Outline—[2044] unit: mm



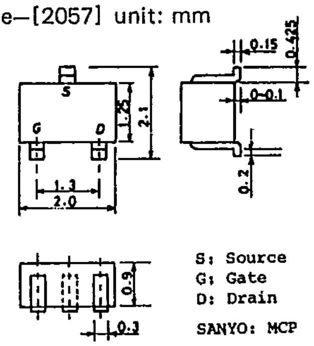
Case Outline—[2046] unit: mm



Case Outline—[2050] unit: mm

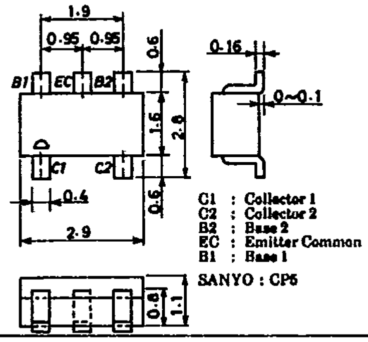


Case Outline–[2057] unit: mm



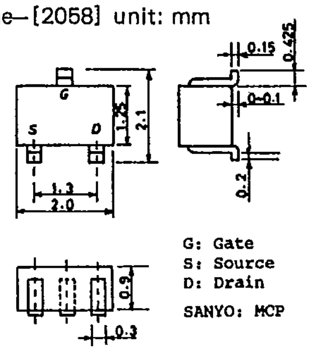
S: Source
G: Gate
D: Drain
SANYO: MCP

Case Outline–[2066] unit: mm



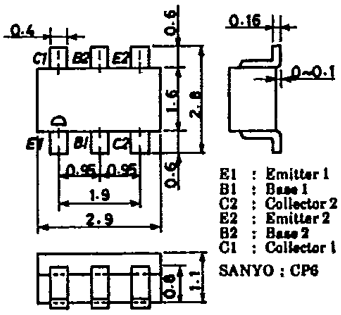
C1 : Collector 1
C2 : Collector 2
B2 : Base 2
EC : Emitter Common
B1 : Base 1
SANYO : CP6

Case Outline–[2058] unit: mm



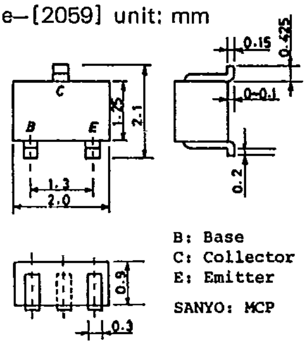
G: Gate
S: Source
D: Drain
SANYO: MCP

Case Outline–[2067] unit: mm



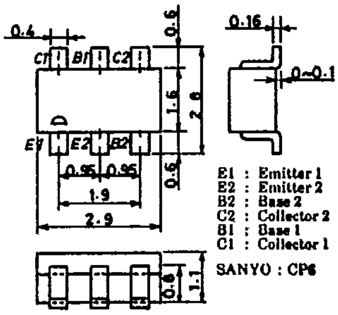
E1 : Emitter 1
B1 : Base 1
C2 : Collector 2
E2 : Emitter 2
B2 : Base 2
C1 : Collector 1
SANYO : CP6

Case Outline–[2059] unit: mm



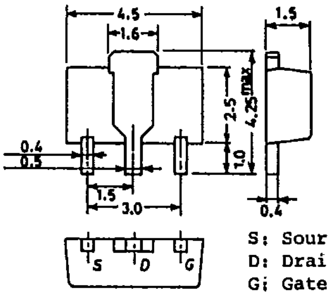
B: Base
C: Collector
E: Emitter
SANYO: MCP

Case Outline–[2068] unit: mm



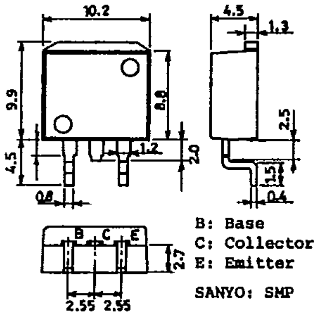
E1 : Emitter 1
E2 : Emitter 2
B2 : Base 2
C2 : Collector 2
B1 : Base 1
C1 : Collector 1
SANYO : CP6

Case Outline–[2062] unit: mm



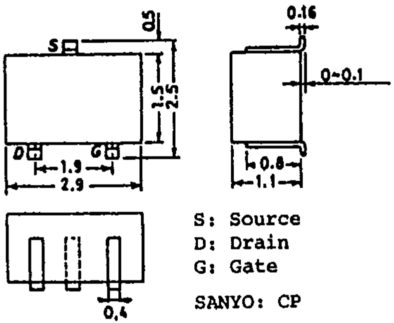
S: Source
D: Drain
G: Gate
SANYO: PCP

Case Outline–[2069] unit: mm



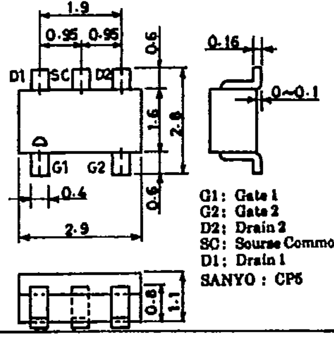
B: Base
C: Collector
E: Emitter
SANYO: SMP

Case Outline–[2065] unit: mm



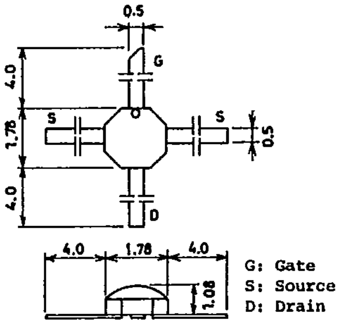
S: Source
D: Drain
G: Gate
SANYO: CP

Case Outline–[2070] unit: mm

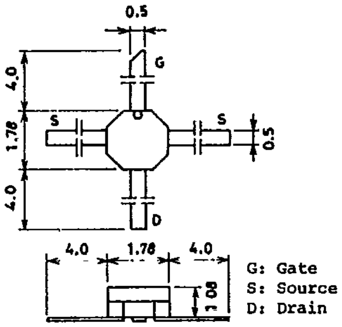


G1: Gate 1
G2: Gate 2
D2: Drain 2
SC: Source Common
D1: Drain 1
SANYO : CP6

Case Outline–[2071] unit: mm



Case Outline–[2072] unit: mm



Case Outline–[2073] unit: mm